CLAIMS

(1) A method for identifying bacteria in a test sample which comprises amplifying a portion of the 23S rDNA present in the sample using a primer pair comprising one primer consisting essentially of one or more oligonucleotides having the sequence or sequences

5'GCGATTTCYGAAYGGGGRAACCC

and a second primer consisting essentially of an oligonucleotide having the sequence

5'TTCGCCTTTCCCTCACGGTACT.

and testing the resulting amplicon by probing a set of oligonucleotides designed to identify bacteria which may be present in the sample by hybridising to their respective amplicon.

(2) Method according to claim 1, in which at least 8 bacterial species are tested for.

(3) Method according to claim 2, in which the organisms tested for comprise at least one of Escherichia coli , Staphylococcus aureus , Pseudomonas aeruginosa , Enterococcus spp. , Klebsiella spp. , Enterobacter spp. , Proteus spp, Pneumococci, and coagulase negative Staphylococci.

(4) Method according to claim 1, in which at least 10 bacterial species are tested for.

(5) Method according to claim 4, in which the organisms tested for comprise at least one of Pseudomonas aeruginosa, Proteus mirabilis, Enterococcus feacium, Enterococcus feacalis , Staphylococcus aureus, coagulase negative Staphylococcus, Listeria species, Stenotrophomonas maltophilia , Burkholderia cepacia, and Escherichia coli.

(6) A method according to claim 1, in which the oligonucleotides have sequences selected from the group consisting of

SEQ ID Nos 3-7, 9-13, 15-19, 21-28, 30-32, 39-41, 44-49, 51, and 53-58.

(7) A method according to claim 1, in which the oligonucleotides have sequences selected from the group consisting of
SEQ ID Nos 8, 14, 20, 29, 33-38, 42, 43, 50, 52, and 59.

(8) A method according to claim 1, in which the oligonucleotides have sequences selected from the group consisting of
SEQ ID Nos 3-59.

(9) A method according to claim 1, in which the oligonucleotides have sequences selected from the group consisting of
SEQ ID Nos 60 -63.

(10) A method according to any of claims 1 to 9, in which amplification is carried out by the polymerase chain reaction (PCR)

(11) A method according to any of claims 1 to 9, in which amplification is carried out by transcription mediated amplification.

(12) A method according to any of the preceding claims, in which the set of oligonucleotides are attached to a support material.

(13) A primer pair comprising one primer consisting essentially of one or more oligonucleotides having the sequence or sequences
5'GCGATTTCYGAAYGGGGRAACCC
and a second primer consisting essentially of an oligonucleotide having the sequence
5'TTCGCCTTTCCCTCACGGTACT.

(14) A primer pair according to claim 13, of which one is a labelled primer.

(15) A primer pair according to claim 13, of which one is a digoxigenin-labelled primer.

(16) A set of oligonucleotides for identifying specific bacteria present in a test sample, comprising oligonucleotides designed simultaneously to identify different bacterial species which may be present, the oligonucleotides being capable of hybridising to a segment of bacterial 23S ribosomal nucleic acid amplified by the use of the primers specified in claim 13, 14, or 15.

(17) A set of Oligonucleotides having sequences selected from the group consisting of SEQ ID Nos 3-7, 9-13, 15-19, 21-28, 30-32, 39-41, 44-49, 51, and 53-58.

(18) A set of Oligonucleotides having sequences selected from the group consisting of SEQ ID Nos 8, 14, 20, 29, 33-38, 42, 43, 50, 52, and 59.

(19) A set of Oligonucleotides having sequences selected from the group consisting of SEQ ID Nos 3-59.

(20) A set of Oligonucleotides having sequences Selected from the group consisting of SEQ ID Nos 60 -63.

(21) A set of oligonucleotides according to any of claims 16 to 20, on a support substrate.

(22) A solid support material carrying a set of oligonucleotides as specified in any of claims 16 to 20.

(23) A support material according to claim 21 or 22, in which some or all of the oligonucleotides are attached to the support by means of chemically modified or additional bases.

(24) A support material according to claim 23, in which additional thymine bases have been attached to the 3 prime end of the oligonucleotide to increase hybridization intensity.

(25) A diagnostic kit for the identification of bacteria comprising an amplification primer pair according to claim 13, 14, or 15, and a set of oligonucleotides according to any of claims 16 to 21.

(26) A diagnostic kit according to claim 25, in which the oligonucleotides are on a support substrate.

(27) An oligonucleotide having a sequence which is any one of the sequences from SEQ ID No 3 to SEQ ID No 63 inclusive.

(28) An oligonucleotide for identifying *Proteus mirabilis,* having the sequence of SEQ ID No 3 or No 4.

(29) An oligonucleotide for identifying *Eschericia coli*, having the sequence of SEQ ID No 5, No 8, No 10, No 37, or No 48.

(30) An oligonucleotide for identifying a *Klebsiella* species, having the sequence of SEQ ID No 6 or No 7.

(31) An oligonucleotide for identifying an *Enterobacter* species, having the sequence of SEQ ID No 9, No 38 or No 49.

(32) An oligonucleotide for identifying *Pseudomonas aeruginosa*, having the sequence of SEQ ID No 13.

(33) An oligonucleotide for identifying *Enterococci*, having the sequence of SEQ ID No 16 or No 19.

(34) An oligonucleotide for identifying *Staphylococcus* species, having the sequence of any of SEQ ID Nos 20 to 26.

(35) An oligonucleotide for identifying a *Burkholderia* species, having the sequence of SEQ ID No 27.

(36) An oligonucleotide for identifying a *Stenotrophomonas* species,having the sequence of SEQ ID No 28.

(37) An oligonucleotide for identifying a *Listeria* species, having the sequence of SEQ ID No 29.

(38) An oligonucleotide for identifying *Streptococcus pneumoniae*, having the sequence of SEQ ID No 15 or No 18.